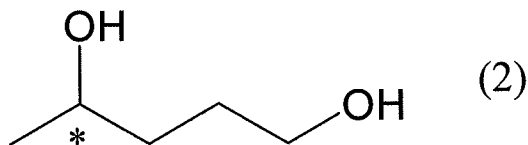


**AMENDMENTS TO THE CLAIMS**

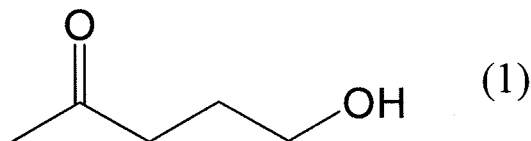
**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended): A process for producing an optically active 1,4-pentanediol represented by formula (2):



(wherein \* represents an asymmetric carbon atom) comprising asymmetrically reducing 5-hydroxy-2-pentanone represented by formula (1):



by the action of an enzyme source having the activity of stereoselectively reducing the 5-hydroxy-2-pentanone,

wherein the enzyme source is a cultured product of a microorganism that has the activity of selectively reducing the compound represented by said formula (1) to produce the R-isomer and that belongs to genus *Candida* or genus *Devosia* and/or an enzyme obtained from any of these microorganisms, and

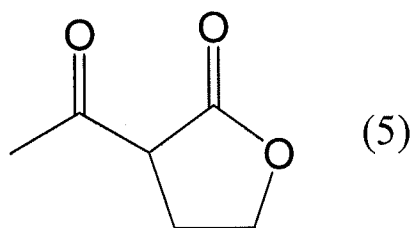
wherein the enzyme source that selectively produces the R-isomer is a cultured product of *Escherichia coli* HB101 (pNTS1G) (FERM BP-5835), *Escherichia coli* HB101 (pNTFPG) (FERM BP-7117), or *Escherichia coli* HB101 (pNTDRG1) (FERM BP-08458) and/or an enzyme obtained from any of these microorganisms..

2. (canceled).
3. (previously presented): The process according to claim 1, wherein the enzyme source is a cultured product of a microorganism belonging to genus Candida, genus Devosia, genus Rhodococcus, or genus Rhodotorula and/or an enzyme obtained from any of these microorganisms.
4. (withdrawn): The process according to claim 2, wherein the enzyme source is a cultured product of a microorganism that has the activity of selectively reducing the compound represented by said formula (1) to produce the S-isomer and that belongs to genus Rhodococcus or genus Rhodotorula and/or an enzyme obtained from any of these microorganisms.
5. (withdrawn): The process according to claim 4, wherein the enzyme source that selectively produces the S-isomer is a cultured product of Rhodococcus sp. or Rhodotorula glutinis and/or an enzyme obtained from any of these microorganisms.
6. (withdrawn): The process according to claim 4, wherein the enzyme source that selectively produces the S-isomer is a cultured product of Escherichia coli HB101 (pNTRS)

(FERM BP-08545) or Escherichia coli HB101 (pNTRGG1) (FERM BP-7858) and/or an enzyme obtained from any of these microorganisms.

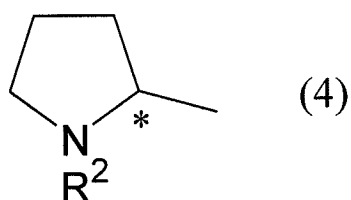
7.-9. (canceled).

10. (previously presented): The process according to claim 1, wherein 5-hydroxy-2-pentanone represented by said formula (1) produced by hydrolyzing 2-acetyl- $\gamma$ -butyrolactone represented by formula (5):



in the presence of an acid is used as a starting material.

11. (withdrawn): A process for producing an optically active 1-substituted 2-methylpyrrolidine represented by formula (4):



(wherein R<sup>2</sup> represents a hydrogen atom, a hydroxyl group, a methoxy group, a benzyloxy group, a substituted or unsubstituted alkyl group having 1 to 12 carbon atoms, a substituted or unsubstituted aralkyl group having 7 to 12 carbon atoms, or a substituted or

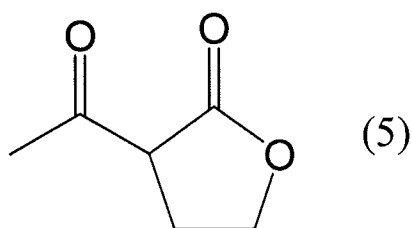
$$\begin{array}{c}
 \text{O}-\text{SO}_2\text{R}^1 \\
 | \\
 \text{---}^*\text{---CH}_2\text{---CH}_2\text{---CH}_2\text{---O---SO}_2\text{R}^1
 \end{array}
 \quad (3)$$

12. (withdrawn): The process according to claim 11, wherein R<sup>1</sup> is a methyl group or a 4-methyphenyl group and R<sup>2</sup> is a benzyl group.

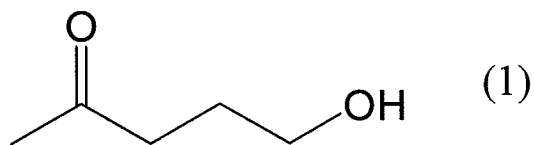
CC(O)CCC(O)C (2)

(wherein \* represents an asymmetric carbon atom) comprising: hydrolyzing

2-acetyl- $\gamma$ -butyrolactone represented by formula (5):



in the presence of an acid into 5-hydroxy-2-pentanone represented by formula (1):



; and

asymmetrically reducing 5-hydroxy-2-pentanone represented by said formula (1) to optically active 1,4-pentanediol represented by said formula (2).